Statement of
Edward C. Green, PhD
Senior Research Scientist
Harvard Center for Population and Development Studies
9 Bow Street
Cambridge, MA 02138
Member, President's Advisory Council on HIV/AIDS

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Introduction and Background

Mr. Chairman, Congressman Kucinich, and Members of the Government Reform Committee, thank you for inviting me to participate in this important hearing on AIDS prevention and PEPFAR. I am a Senior Research Scientist at the Harvard Center for Population and Development Studies, which has the mission to promote cross-disciplinary research on critical issues of population, health and development that will advance the well-being of the global poor. For most of my professional career, I have not been an academic. I have worked in less developed countries as an applied behavioral science researcher and as designer and evaluator of public health programs, mostly under funding of the US Agency for International Development. I have worked extensively in Africa and other resource-poor parts of the world. I served as an in-country advisor to the ministries of health in both Mozambique (1994-5) and Swaziland (1981-83), and I serve on the advisory boards of several AIDS organizations, including the Presidential Advisory Council for HIV/AIDS (2003-), the Office of AIDS Research Advisory Council, National Institutes of Health (until 2006), and AIDS.org. (an internet portal for AIDS information). I have worked in HIV/AIDS prevention since the mid-1980s, at which time I was working in the field of contraceptive social marketing in Africa and the Caribbean.

I worked with presenter Dr. Lucy Nkya in 1994, in Morogoro, Tanzania, on a project aimed at protecting prostitutes and their clients from HIV-infection. Obviously, the message of sexual abstinence is not very relevant to active sex workers. But neither is the message of clean syringes and condoms a relevant primary message for primary school children who are not yet sexually active and who may never be near a drug addict in their lives. Africans I have worked with never have any trouble understanding the need to target different audiences with different AIDS prevention messages. But some Westerners for whom AIDS has become a convenient vehicle for political activism do have trouble understanding this simple idea, which is so basic in public health and in applied communications.

My House and Senate testimonies in 2003[1] on the success of the ABC model in dramatically reducing HIV prevalence in Uganda were influential, I am told, in the adoption by PEPFAR of the ABC model for generalized epidemics, that is, epidemics that have spread beyond specific high-risk groups such as prostitutes, drug injectors, and gay men to the broader, general population. Part of the reason for criticism of the ABC model, largely by Americans and Europeans, is a failure to understand the difference between so-called concentrated and generalized epidemics. Most of the PEPFAR focus countries (and all of the original 15) have generalized or semi-generalized epidemics, with the notable exception of Vietnam, which has a concentrated epidemic.

Let me state at the outset that my involvement in the implementation of PEPFAR has been limited. For some months I served as the part-time Monitoring and Evaluation Advisor, as well as the so-called AB Prevention Advisor for Catholic Relief Services, in its PEPFAR-supported "ABY" program in Uganda, Ethiopia and Rwanda. But then I realized I was overextended and so discontinued this side consulting activity and concentrated on my other commitments. Still, I stay in touch with my CRS colleagues and some of today's testimony is informed by their experience with PEPFAR.

The U.S. Agency for International Development (USAID) adopted Uganda's successful approach to AIDS prevention (known after the late 1990s as ABC) as a model for *generalized epidemics*, in December 2002. In 2003, PEPFAR also adopted the ABC approach. The first PEPFAR prevention strategy document to be released announced that "risk elimination" would be the "cornerstone" of prevention.[2] Risk elimination, also called risk avoidance, refers to sexual abstinence and to mutual fidelity between two uninfected sex partners. Risk reduction, on the other hand, refers to strategies such as condom usage that reduce but do not eliminate the risk of sexual transmission. PEPFAR, through the ABC approach, proposed to combat AIDS both ways, rather than only one way.

The Office of the U.S. Global AIDS Coordinator (OGAC) later released further guidance on the ABC approach.[3] Although this guidance has clarified the prevention approach to

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[1] Green, E.C. "Fighting AIDS in Uganda: What Went Right?" Hearing before the Subcommittee on African Affairs of the Committee on Foreign Relations, United States Senate, One Hundred Eighth Congress, first session, May 19, 2003 (pp. 36-40, also co-author of pp. 15-23).
http://www.senate.gov/~foreign/hearings/2003/hrg030519p.html

Green, E.C. "HIV/AIDS, TB, and Malaria: Combating a Global Pandemic." Testimony on AIDS in Africa, for Committee Hearing, The House Committee on Energy and Commerce, U.S. House of Representatives, March 20, 2003. http://energycommerce.house.gov/108/Hearings/03202003hearing832/Green1379.htm

[2] Office of the United States Global Aids Coordinator for AIDS Relief. *The President's Emergency Plan for AIDS Relief: U.S. Five-Year Global HIV/AIDS Strategy*. Washington, D.C., February 2004.

[3] Office of the United States Global AIDS Coordinator for AIDS Relief. *ABC Guidance for United States Government In-Country Staff and Implementing Partners Applying the ABC Approach to Preventing*

be followed by programs under PEPFAR, considerable confusion and controversy remain. Part of the reason for this seems to be the backlash coming from family planning and contraceptive-oriented organizations—and agencies including UNFPA and UNAIDS—which may fear receiving smaller allocations of resources if some resources go to behavioral programs. In extreme forms, fear that condom programs might lose money have even led to formal proposals to eliminate primary prevention—that is, risk elimination—programs altogether.

Main Statement

Amending the 2003 Act that requires that 33% of PEPFAR prevention funds be spent on abstinence and fidelity programs would be an extremely bad move. Removing this "earmark" would remove an essential primary prevention foundation from the US Government response to the AIDS pandemic. It would leave only risk reduction, which is different in intent and effectiveness from true prevention. A risk reduction approach assumes that something contributing to morbidity and mortality cannot be changed, and that therefore the best we can do is to reduce the risk. Risk reduction alone has never brought down HIV infection rates in Africa. This conclusion was reached by three separate studies under the rubric of the 2002-2004 USAID ABC Study. It was even reached by two UNAIDS studies (2001 and 2004).

Future historians will wonder how the major donors mobilized so many resources to fight the AIDS pandemic before 2003 yet omitted an essential primary prevention approach, whether they were conscious of this or not. Prevention based on risk reduction had some early success in Thailand, but never in Africa. Now PEPFAR and USAID lead the world in AIDS prevention, promoting *a balanced and targeted* set of interventions that include Abstinence, Being faithful, and Condoms for whose who cannot or will not follow A or B behaviors. This is in spite of formidable and continuing institutional resistance to change. As a senior USAID officer commented not long ago, "USAID is in the condom and contraceptive business. That is our business."

Removing primary prevention from this mix, by removing the present earmark, would return AIDS prevention to the era when HIV prevalence continued to rise in every country in Africa, with the exception of Uganda and Senegal, the first two countries in Africa to implement ABC programs. Since then, ABC programs and changes specifically in A and B behaviors—especially B—are credited with reducing HIV prevalence in Kenya, Zimbabwe and Haiti, and perhaps in Rwanda. These last three countries' successes are all the more remarkable considering the political and economic devastation they have suffered.

Since PEPFAR is implemented in countries with mostly generalized epidemics (with the exception of Vietnam), its approach to AIDS prevention must be one that works with generalized epidemics. Risk reduction-only programs (i.e., condom promotion, treating

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Sexually Transmitted HIV Infections within The President's Emergency Plan for AIDS Relief. Washington, D.C., March 2005.

STIs, and promotion of VCT) have been found to have little or no overall impact on generalized epidemics, if this is measured by declines in national HIV prevalence. This was the conclusion of the USAID ABC Study of 2003,[4] as well as two studies of UNAIDS: the multi-site African study (published in a special issue of Journal AIDS, 2001)[5] and the 2003 Condom Effectiveness Review.[6]

By 2004, analyses of Uganda data published in leading scientific journals concluded that decline in casual sex (the B of ABC) was the major factor associated with HIV prevalence decline in Uganda.[7] Since then, evidence for a pivotal role for partner reduction has emerged for more recent HIV declines in Kenya and Zimbabwe.[8] This should not be surprising, considering that condoms are estimated to be between 80% and 90% effective against HIV when used consistently—that is, to reduce HIV transmission

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[4] Bessinger, R., Akwara, P., Halperin, D. (2003). *Sexual behavior, HIV and fertility trends: A comparative analysis of six countries; Phase I of the ABC study.* Measure Evaluation; USAID. www.cpc.unc.edu/measure/publications/special/

Green, E.C., Nantulya, V., Oppong, Y. (2003). *Literature Review and Preliminary Analysis of "ABC" factors in Six Developing Countries.* Cambridge,MA: Harvard Center for Population and Development Studies.

[5] Buve, A., Carael, M., Hayes, R., Auvert, B., Ferry, B., Robinson, N., et al. (2001). Multicentre study on factors determining differences in rate of spread of HIV in sub-Saharan Africa: methods and prevalence of HIV infection. *AIDS*, *15*(Suppl.), pp. S5-S14.

White, R., Cleland, J., Carael, M. (2000). Links between premarital sexual behavior and extramarital intercourse: multi-site analysis. *AIDS*, *14*, pp. 2323-2331.

[6] Hearst, N., Chen, S. (2004). Condom Promotion for AIDS Prevention in the Developing World: Is it Working? *Studies in Family Planning*, 35(1), pp. 39–47.

[7] Shelton, J.D., Halperin, D.T., Nantulya, V., Potts, M., Gayle, H.D., Holmes, K.K. (2004). Partner reduction is crucial for balanced "ABC" approach to HIV prevention. *British Medical Journal*, 328 (10), pp. 891-893.

Halperin, D.H., Epstein, E. (2004.) Concurrent sexual partnerships help to explain Africa's high HIV prevalence: implications for prevention. *The Lancet*, 363, pp. 4-6.

[8] Stoneburner, R.L., Low-Beer D. (2004.) Population-level HIV declines and behavioral risk avoidance in Uganda. *Science*, 304, pp. 714–18.

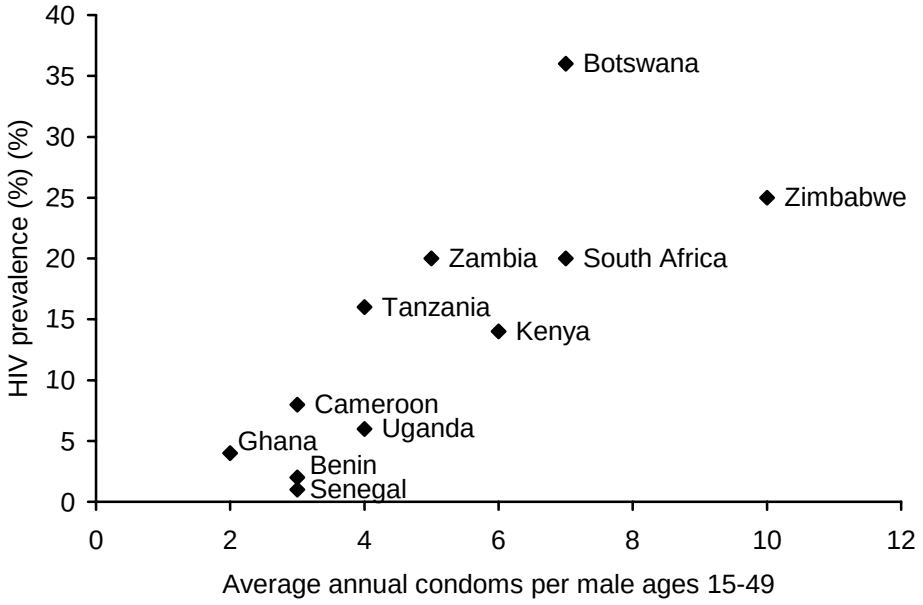
Gregson, S., Garnett, G.P., Nyamukapa, C.A., et al. (2006.) HIV Decline Associated with Behavior Change in Eastern Zimbabwe. *Science*, 311, p. 664.

Cheluget, B., Baltazar, G., Orege, P., Ibrahim, M., Marum, L.H., Stover J. (2006). Evidence for population level declines in adult HIV prevalence in Kenya. *Sexually Transmitted Infections*, 82 Suppl 1, pp. i21-26.

Hayes, R., Weiss, H. (2006.) Enhanced: Understanding HIV Epidemic Trends in Africa. Hayes R, Weiss H. Enhanced: Understanding HIV Epidemic Trends in Africa. *Science*, 311, pp. 620-621.

by 80% to 90% compared to non-use.[9] Yet consistent use of condoms is rare and with "typical use" of condoms, risk reduction *at the population level* is in minimal. In fact, there is a very disturbing association (whether or not causation can be established) in Africa between higher condom use and higher levels of HIV infection. This can easily be seen by simply looking at levels of both condom availability and condom use, and HIV prevalence in African nations for which such data are available. The following figure shows the unwanted association between condom availability (average annual number of condoms available per Male per year) and HIV prevalence.[10]

Average Annual Number of Condoms per Male in sub-Saharan Africa



It is noteworthy that while this disturbing association is widely recognized among AIDS professionals, to my knowledge such a table has never been published (except for the above citation, my own publication). Such a table showing condom availability and national HIV infection levels were presented in my testimony[11] (Fig. 4). Consistent with

[9] Weller, S., Davis, K. Condom effectiveness in reducing heterosexual HIV transmission. (2002). *Cochrane database Systematic Review*, (1), CD003255.

Gardner, R., Blackburn, R. D., Upadhyay, U. D. (1999). Closing the condom gap. *Population Reports, Series H*. Baltimore: Johns Hopkins University.

[10] Green, E.C., Herling, A. (2006). *The ABC Approach to Preventing the Sexual Transmission of HIV. Common Questions and Answers.* Washington, D.C., May 2006. Morgantown, PA: Masthof Press. http://www.ccih.org/Primer%20on%20ABC/ABCdocPrint080306.pdf

[11] Green, E.C. "HIV/AIDS, TB, and Malaria: Combating a Global Pandemic." Testimony on AIDS in Africa, for Committee Hearing, The House Committee on Energy and Commerce, U.S. House of

this association, in the first countries for which we have DHS (Demographic and Health Surveys, funded by the USAID) behavioral data plus blood samples showing HIV status (Kenya, Tanzania, Ghana, Uganda), we see that condom users are almost always found to have higher HIV prevalence than non-users.

A "consensus statement" published for the 2004 World AIDS Day in *The Lancet*[12] proposed that mutual faithfulness with an uninfected partner should be the primary behavioral approach promoted for sexually active adults in generalized epidemics. Abstinence or delay of age of "sexual debut" should be the primary behavioral approach promoted for youth. This represented a fairly marked departure from many previous prevention approaches, which emphasized risk reduction almost exclusively as the first line of defense for sexually active adults in all types of epidemics. This statement was endorsed by over 150 global AIDS experts including representatives of five UN agencies, WHO, and the World Bank, as well as President Museveni of Uganda and various religious leaders including Archbishop Desmond Tutu. A growing number of public and international health professionals recognize that, before successful primary prevention programs in Uganda and Senegal, AIDS prevention lacked an essential primary prevention component. Proponents of the ABC approach see the AB components as logical, sensible, cost-effective, sustainable, culturally appropriate interventions for general, as distinct from high-risk, populations. Moreover, the evidence is clear that these components work and that risk reduction alone has not led to a single success in generalized epidemics.

Critics of ABC, if they work in AIDS or reproductive health fields, are invariably critics of these same AB interventions while favoring condoms. They point to rape, coerced sex, the powerlessness and lack of choice of African women, and they argue that promoting AB behaviors is quixotic, doomed to failure, or simply "irrelevant to women's lives." The logic seems to be: if not *every* woman is in a position to practice abstinence of fidelity, then we should not promote these risk elimination behaviors at all. But this makes no logical or public health sense. Moreover, we know from decades of experience that a great many women are not in a position to insist on condom use. . And only a faction of all Africans in the sexually active years, no more than 5% in any country, use condoms consistently, which is the only behavior that impacts HIV infection rates significantly. Another point of bitterness and contention is PEPFAR's allocation guidelines, which specify that certain proportions of sexually transmitted HIV prevention funds must be spent on AB programs. This is unfortunate, since it appears to support a "one size fits all" approach. Yet AB proponents argue with some justification that unless there is political pressure, few if any funds would be allocated to AB programs, since almost no funds were so allocated, prior to the US policy shift.

Representatives, March 20, 2003.
http://energycommerce.house.gov/108/Hearings/03202003hearing832/Green1379.htm

[12] Halperin D.T., Steiner M.J., Cassell M.M., et al. The Time Has Come for Common Ground on Preventing Sexual Transmission of HIV. *The Lancet* 2004, 364, pp. 1913–1915.

Still, any coerced allocations create a zero-sum game atmosphere, making AB critics feel that funds are being shifted away from familiar condom programs and perhaps away from organizations whose skills and experience center around contraceptives and who have been fighting the AIDS pandemic from the earliest years. Yet the last few years have seen an almost exponential growth in funds available for condoms and for AIDS programs in general. There should be enough resources for both sides. And viewed objectively, *both* sides of this debate are right, depending on whether high-risk or general populations are targeted. *Both* approaches are needed and *both* population segments need coverage. Condom interventions works best in concentrated epidemics with small, identifiable groups of core transmission where it is possible to achieve high rates of condom use, while AB is the approach that, when backed up by C, has had proven impact in generalized epidemics.

Who and how many are considered at high risk is also a point of contention. One side holds that "we are all at high risk; anyone can be infected." That has a nice egalitarian feel to it; we are all in this together. Yet there are ample data showing that most people are not at risk for HIV infection. For example, DHS data show higher levels of AB behaviors than is assumed by many, including those who work in the AIDS field and ought to be familiar with the data:

1. 23% of African men and 3% of African women reported multiple sexual partners in the last year
2. Among unmarried youth 15-24, 41% of young men and 32% of young women in Africa reported pre-marital sex in the past year[13]

This means that *most* African men and women practice B behaviors (or do not have outside sexual partners) and *most* unmarried African youth do not report sexual intercourse in the past year. Moreover, the trend in Africa is towards *higher* levels of A and B behaviors and towards incrementally *lower* HIV prevalence (7.2% in 2005 compared to 7.5% in 2003).[14]

What has been missing in the debate over AIDS prevention is a calm, even-handed, balanced viewpoint that recognizes that *some* resources clearly must be targeted to high-risk groups, while *some* must be directed to what survey and epidemiological evidence show are the majority of people. To target only those at high-risk is to effectively ignore the majority of any population. Targeting both minority (high-risk) and majority populations need not result in diminished quality or even quantity of prevention resources going to either group. If Uganda, with relatively few resources could design and implement a *balanced and targeted* ABC program, surely PEPFAR, with billions of dollars, can do as much.

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[13] Data available at: http://www.measuredhs.com/

[14] UNAIDS. *AIDS Epidemic Update 2005.* Geneva: UNAIDS. http://www.unaids.org/ Epi2005/doc/ report.html .

In sum, it would be a tragic mistake to remove earmarks for fidelity and abstinence programs, a mistake that would result in massive loss of lives. We would be removing the two interventions that have worked better than any others in generalized epidemics. American AIDS activists tend to think of AIDS patterns and challenges in New York and San Francisco when they make their demands, even if they shift the rhetoric to sound as if they are talking about Africa. These activists, who no doubt mean well for Africa and less developed countries, need to look carefully at the AIDS-related evidence from less developed countries.

I hope the Congress will take no actions that would seriously undercut the one major donor agency in the world that is conducting effective AIDS prevention in generalized epidemics, by in effect removing the very interventions that have been proven to have the most impact. I believe that the simple, effective African model of AIDS prevention is still so new and different from the old way of doing things that, without direction from Congress, the bureaucracies involved in guiding implementation would fall back on old habits and once again limit prevention to risk reduction only—to condom, drugs, and testing.